

Notice of Allowability

Application No.

10/780,171

Examiner

Alexander Sofocleous

Applicant(s)

LIN ET AL.

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 12/28/2006.
2. ☒ The allowed claim(s) is/are 10-14 and 17-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 01/03/2007
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



ANH PHUNG

PRIMARY EXAMINER

DETAILED ACTION

1. This action is responsive to the following communication: the Amendment of October 12, 2006 and the Amendment of December 28, 2006.
2. Claims 10-14, 17-24 are pending in the case. Claims 1-9, 15-16, and 25 are cancelled. Claims 10, 17, and 18 are independent claims.

Response to Arguments

3. Applicant's arguments filed October 12, 2006 with respect to claims 10-14, 17-24 have been fully considered and are persuasive (see Applicant's Remarks page 7, lines 1, 6-9, 11-14; page 8, lines 1-3). The rejection of claims 10-14, 17-24 over Okazawa in view of Sharma et al. has been withdrawn.
4. Acknowledgement is made for the amendment filed December 28, 2006 (see interview summary form dated 20070103).

Allowable Subject Matter

5. **Claims 10-14 and 17-24 are allowed.**
6. The following is a statement of reasons for the indication of allowable subject matter:

With respect to independent claim 10, 17, and 18, there is no teaching or suggestion in the prior art to an MRAM array with first diodes having a cathode and an anode coupled to a corresponding bit line and second diodes have an anode and a

cathode coupled to a corresponding word line, wherein each MTJ is connected between a first diode at a corresponding bit line and a second diode at a corresponding word line.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Takada et al. (JP2003-208785).

Takada et al. show coupling the cathode of a first diode to the word line and the anode of the first diode to the magnetic memory (TMR), and coupling the cathode of a zener diode to the bit line and the anode of the zener diode to the digit line. Takada et al. fail to teach or suggest teaching coupling the anode of a first diode to the bit line and the cathode of the first diode to the MTJ, and the cathode of the second diode to the word line and the anode of the second diode to the MTJ.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Sofocleous whose telephone number is 571-272-0635. The examiner can normally be reached on M-F 7:00am - 4pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGS



ANH PHUNG
PRIMARY EXAMINER